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SMARA UPDATE

The Quarterly Newsletter of the Department of Conservation - Office of Mine Reclamation

OMR'S PROCEDURE FOR RELEASING FINANCIAL ASSURANCES

RELEASE OF FINANCIAL ASSURANCES - Two Scenarios

SMARA, the Surface Mining and Reclamation Act of 1975 (Public Resources Code sections 2710 *et seq*.) discusses how financial assurances for mining operations are created, reviewed, amended, forfeited and released. Recently, the Department of Conservation's (Department), Office of Mine Reclamation (OMR) received inquiries about the release of financial assurance mechanisms. Two scenarios that involve the release of a financial assurance are commonly encountered. The first scenario involves the release of financial assurance when an operator sells or transfers the mining operation to another person. The second scenario involves release of the financial assurance after the mined lands have been reclaimed.

For purposes of this discussion, release or transfer of financial assurances is described in both the statute and regulations. Section 2773.1 of the Public Resources Code provides the basic detail for release of financial assurances. Section 3805.5 of the California Code of Regulations describes, in greater detail, the responsibilities of a lead agency and of the Department with respect to the release or transfer of a financial assurance. Another pertinent section of statute is PRC section 2779, describing how a successor in a mining operation is bound by the provisions of the approved financial assurance. Finally, ordinances adopted by lead agencies pursuant to the requirements of PRC section 2774(a), should contain a section that addresses the Statement of Responsibility for each mining operation.

Generally, financial assurances must be maintained continuously for the life of a mining operation, including any times during which the mining operation is idle, and until reclamation is complete. The amount of financial assurance must be reviewed annually by the lead agency for adequacy. Proposed expansion of operations may require that the amount of financial assurance be increased. Partial reclamation may allow a decrease in the amount. No lapses may occur during the period for which a financial assurance is required. The acceptable term a financial assurance should remain in effect is for the specified term of

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coverage plus an additional 120 days. Additional information on financial assurances can be found the Financial Assurance Guidelines adopted by the State Mining and Geology Board. The guidelines can be accessed thru the Department's web site at www.conservation.ca.gov.

Change of Ownership

There are many reasons why a mining operation may change hands. When a change in ownership occurs, the point at issue is the role and responsibility of the former mining operator, the new mining operator, the lead agency and the Department. When a mining operation is sold, or ownership is otherwise transferred, the original owner's financial assurance must remain in effect until the lead agency has approved, after Department review, replacement financial assurances for the new operator. The prior owner's financial assurance can only be released upon the lead agency's approval of the replacement financial assurance. Replacement financial assurances must be approved in the same manner as the existing financial assurances.

OMR commonly witnesses the change of ownership of mining operations. A prudent mining operator will insure that a replacement financial assurance is approved and in place before the sale or transfer of the mining operation has been completed. Further, the transferring operator should insist that a Statement of Responsibility (*see exhibit*) has been prepared by the new operator and is properly recorded with the lead agency and the Department. Failure to ensure that these two essentials have taken place means the original mining operator will remain responsible for paying for the reclamation of the mining operation even though the original operator may not now own or even have access to the land on which the mining operation exists, and will remain liable to maintain the financial assurances for the mining operation it has "transferred" to another.

In the experience of both OMR and some lead agencies, transfers of mining operations have occurred where these two elements were not properly addressed. Often, operators do not advise OMR or the lead agency that they no longer should be responsible for an operation until after an exchange has been completed. Unfortunately in some cases, the new owner does not fulfill their successor obligation thus putting the original operator in jeopardy with respect to its ability to complete reclamation of a mine site. At that point, neither the OMR nor the lead agency can do much to help the original mine operator. So long as the mining operation has not been reclaimed, the original financial assurance must be maintained. Until the new owner posts a financial assurance and accepts responsibility for reclamation, OMR and the lead agency will continue to look to the original mining operator as responsible for reclamation and annual reporting for the site.

Bottom Line: Make sure the lead agency and OMR each have a valid, approved financial assurance and a properly recorded Statement of Responsibility from the new operator. Note that the Statement of Responsibility by the new operator is for the original operator's reclamation plan obligations, as set out in the approved reclamation plan. If the parties contemplate that there will be substantial reclamation plan changes needed before the new operator will want to assume liability for the mining operation and the reclamation obligations in place at the time a transfer of ownership is contemplated, then the original operator should seek an amendment to the reclamation plan, before the change in ownership is consummated. Only the operator of record may amend a reclamation plan. To be recognized as the operator of record, the "new" operator must first execute a Statement of Responsibility, ***and,*** have filed

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new financial assurances in an amount approved by the lead agency.

Release of Financial Assurance

When should a financial assurance be released? Ultimately, when the mine operator, the lead agency and Department all agree that reclamation is complete, in accordance with the approved reclamation plan.

The responsibility for release of a financial assurance begins with the mine operator. When the operator has completed reclamation, the operator should request a written notice from the lead agency that reclamation has been completed pursuant to the approved reclamation plan. Section 3805.5 of the California Code of Regulation then guides the lead agency thru what is necessary to certify that a mine has been adequately reclaimed. This section is applicable to both a revision in the amount of a financial assurance and a release of one. In effect, the release of a financial assurance is a revision where the change is to reduce the financial assurance from a set amount to zero.

Upon request from an operator, the lead agency performs an inspection of the reclaimed mining site and prepares an inspection report. The completed inspection report, a revised financial assurance cost estimate to zero, and a statement from the lead agency certifying that the site is reclaimed is then forwarded to the Department. The Department may inspect the mine site to verify the status of reclamation. The Department must respond to the lead agency that it either concurs with its finding that reclamation is complete, or that, based upon its own inspection, determines that aspects of the approved reclamation plan are not complete and, therefore, the financial assurance may not be released.

Obviously, if either the lead agency or the Department find that the mine site has not been completely reclaimed, or that other violations remain unresolved, then the financial assurance will not be released.

Once the lead agency has received a concurrence from the Department that the mining operation has been adequately reclaimed and that no violations remain unresolved, then and only then can the financial assurance be released.

Bottom Line: Mine operators should make sure that the lead agency receives written notification that the mining operation has been fully reclaimed before requesting a release of the financial assurance. Lead agencies must make a final inspection of the reclaimed site and provide written certification to the Department that the site has been reclaimed in accordance with the approved plan. The financial assurance can only be released after the Department issues written concurrence with the lead agency's recommendation that the financial assurances be released.

Exhibit: Statement of Responsibility

The State Mining and Geology Board developed guidelines that include a model ordinance for use by City and County lead agencies. One element of a lead agency ordinance is a section on Statement of Responsibility. The Statement of Responsibility is an affidavit signed by the person submitting a new reclamation plan, **or, a new mine operator (in the case of a sale or transfer) who is accepting responsibility for an existing reclamation plan**. A Statement of Responsibility may come in any form. The example on the following page is preferred. A copy of a properly executed Statement of Responsibility should be kept by both the lead agency and the Department.

William Armstrong
Assistant Director (C.E.A.)
Office of Mine Reclamation

STATEMENT OF RESPONSIBILITY

I, the undersigned, hereby agree to accept full responsibility for reclamation of all mined lands as described and submitted herein and in conformance with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 *et seq*. and 3700 *et seq*., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, the Surface Mining and Reclamation Act of 1975, as amended (Section 2710 *et seq*. of the Public Resources Code), and with any modifications requested by the administering agency as conditions of approval.

Signed this_____ day of, _____ 20 _____

MINE OPERATOR OR OPERATOR'S AGENT

(Printed Name) _____

(Signature) _____

MINE NAME _____

CA MINE ID # _____

The original copy must be given to the lead agency and one copy forwarded by the lead agency to:

Department of Conservation
Office of Mine Reclamation
801 K Street, MS 09-06
Sacramento Ca 95814-3529

Course Announcement: Static and Seismic Slope Stability for Waste Containment Facilities

The University of Wisconsin-Madison, Department of Engineering Professional Development will offer a course titled, "Static and Seismic Slope Stability for Waste Containment Facilities," August 3-5, 2004, in Baldwin Park, California. For planners, landfill designers, plan reviewers, construction engineers, site inspectors and facility owners, this course will present the fundamental principles, calculation procedures, analytical techniques and computer modeling for ensuring static and seismic slope stability. Key course topics include:

- Measuring waste and liner properties
- Engineering analysis and design
- Preventing slope failures
- Computer analysis
- Preparing a stability analysis
- Conducting a seismic design study

The course brochure is available at http://epdweb.engr.wisc.edu/emaG218 or by calling 800-462-0876. For more information about our courses, visit our website at http://epdweb.engr.wisc.edu.

OMR'S NEW 'AB 3098 LIST' IS OUT

The new "AB 3098 List" was published on-line on June 1, 2004. The Office of Mine Reclamation (OMR) quarterly publishes a list of mines regulated under the Surface Mining and Reclamation Act of 1976 (SMARA) that meet provisions set forth under California's Public Resources Code, Section 2717(b). This list is generally referred to as the "AB 3098 List" in reference to the 1992 legislation that established it.

Sections 10295.5 and 20676 of the Public Contract Code preclude State agencies from buying aggregate or other mined minerals from California mining operations that are not on the AB 3098 List. Additionally, the newly enacted Senate Bill 649 (SB 649) prohibits mining operators who are not on the AB 3098 List from selling aggregate or other mined minerals to local governmental agencies.

The most current AB 3098 List, published June 1, 2004, is on OMR's website at: http://www.consrv.ca.gov/OMR/ab_3098_list/current_list.htm.

In order for OMR to place a mining operation on the AB 3098 List, the operation must meet the following five conditions:

The operation must have a Lead Agency approved Reclamation Plan,
The operation must have a Lead Agency approved Financial Assurance,
The operation must have filed its Mining Operation Annual Report,
The operation must have paid its Reporting Fee,
The operation must have had its Annual Inspection by the Lead Agency to reflect its operation is in full compliance with SMARA.

A mining operation may be placed on the AB 3098 List if it has a pending appeal with the State Mining and Geology Board regarding its Reclamation Plan or Financial Assurance, provided its appeal has not been pending for more than 180 days.

The AB 3098 List is updated frequently, but no less often than quarterly. Mine operations that become eligible to be put onto the AB 3098 List in those time periods that fall between publications, can contact OMR and request a letter stating that they are indeed on the List.

BATS IN CALIFORNIA'S ABANDONED UNDERGROUND MINES

Abandoned California mines provide important habitats for several bat species. As a result of California's continued urbanization, bats have lost many of their once natural roosting sites such as in caves, rock crevasses, and old tree hollows. Although natural caves still exist, many are now too frequently disturbed by humans to provide safe bat habitats. Bats require secluded protected roosts to hibernate in the winter and to raise their young in the summer.

Approximately one quarter of the 47 identified U.S. bat species are believed to hibernate almost exclusively in old mines or caves. Over the past 100 years as human encroachment displaced their natural habitats, bats gradually migrated into abandoned underground mines that provide microenvironments similar to those of natural caves.

Several endangered California bat species occur primarily in abandoned underground mines. For example, the California Leaf-Nosed Bat is extremely dependent on abandoned mines and nearly all of the remaining members of this species inhabit abandoned mines.

Permanent roosting habitats – such as those abandoned mines equipped with bat-friendly gates – are crucial for the long-term survival of some endangered bat species. Abandoned mines may also provide a necessary year-round water source. Abandoned mines can occasionally provide such excellent bat refuges that some have become "super bat habitats" where concentrated colonial bat populations thrive. It is not uncommon for some mines to have bat colonies that number in the thousands. An estimated one million Little-Brown Bats and Big-Brown Bats inhabit the Millie Hill Mine in Michigan. Some abandoned underground mines in Indiana and Wisconsin have bat colonies that number in the hundreds of thousands.

Due to their secretive nocturnal behavior, many bat species that have well-established mine-site habitats are especially vulnerable to mine closures. Humans are often unaware that bats inhabit an abandoned mine and an internal survey or an external night-time survey may be the only way to determine if there are bat inhabitants. Several bat species are so instinctively committed to certain mine sites they often cannot readily change roosts and may perish if the mine closure process is too rapid, or when they are hibernating. In past years, poorly planned mine closures resulted in the deaths of many thousands of bats: suddenly blocked mine entrances trapped roosting bats and they died of starvation. Today, the Department of Conservation's Abandoned Mine Lands Unit makes every possible effort to prevent such tragedies. Working with Bat Conservation International and trained biologists, each proposed closure site is thoroughly evaluated for

Above photo: A roosting Townsend's Big-Eared Bat (*Corynorhinus townsendii*). Like many other species, they return to the same roost sites year-after-year. It is believed these bats with humongous ears feed entirely on moths. They prefer hibernation sites near mine entrances in well-ventilated areas where temperatures are 54°F or less. They hibernate in clusters of a few individuals to more than 100. During hibernation, their long ears may become coiled. Solitary bats sometimes roost by hanging by only one foot. Maternity colonies usually are located in relatively warm parts of mines. During the maternity period, males are solitary. *Photo courtesy of Bat Conservation International, Inc., photo by Merlin D. Tuttle .*

Ed Winchester of Frontier Environmental Solutions and Karen Harville of the Bureau of Land Management's (BLM) Needles Field Office place a lock on a bat gate installed in the Lucky Jim Mine in San Bernardino County. This gating project was a joint effort of the Department of Conservation's Abandoned Mine Lands Unit, Bat Conservation International, and the BLM. Previous human encroachment into the mine disturbed colonies of bats, which presently occupy the site in both summer and winter. The two most important species using the site are the Fringed Bat, which utilizes the mine in summer for maternity colonies, and the Leaf-Nosed Bat, which utilizes the mine in winter as a winter day-and-night roost site. *Photo courtesy of Frontier Environmental Solutions.*

existing and potential bat habitat.

Bats prefer warm sites for maternity roosts, and migrate to cooler sites for hibernation during the winter. Minimizing body temperature allows bats to maintain their lowest possible metabolic level while hibernating during the cold winter months. Some large mines provide both types of habitats. Several California bat species – including the Pallid Bat (*Antrozous pallidus)*, Townsend's Big-Eared Bat (*Corynorhinus townsendii*) and several species of small-footed bats (*Myotis sp.*) – are known to inhabit old mine workings as roosting sites. Large complex abandoned mines – that are often quite dangerous to humans – commonly provide the best habitats for bats since they may provide seclusion, protection, water sources as well as favorable air flow patterns.

The Benefits of Bats

Bats are environmentally beneficial and play an important role in both natural and managed ecosystems. Most of the bat species in California are night-flying insectivorous predators and consume many insects that rank among California's most costly agricultural and forest pests. One lone Brown Bat can catch more than 1,200 mosquito-sized insects an hour; cucumber beetles, May beetles, green and brown stinkbugs and leafhoppers are all part of their diet. Pallid Bats benefit ranchers by consuming large quantities of grasshoppers and crickets. A large colony of Mexican Free-Tailed Bats that inhabit the old Orient Mine in Colorado consumes nearly two tons of insects nightly.

To avoid relying on chemical pesticides, ranchers and farmers are increasing using bats to naturally control insect pests by constructing artificial bat houses. Insectivorous bats often chase away insect pests from their feeding areas, and researchers are studying to see if their echolocation calls can be mimicked for industrial applications.

A few nectar feeding California bat species – such as the Lesser Long-Nosed Bat, the Greater Long-Nosed Bat, and the Long-Tongued Bat – are important pollinators for some 60 species of agave plants.

These species also serve as both pollinators and seed dispersers for dozens of columnar cacti species.

Bat-Friendly Underground Mine Closures

Abandoned mine sites that are gated and secured with bat-friendly metal grates have done much to foster the survival of threatened and endangered bat species. In recent years, governmental agencies have begun to consider bat habitat retention prior to closing abandoned underground mines. Most underground mines that are closed by governmental agencies using bat-friendly methods are for public safety as well as to keep people away from threatened bat populations.

Closure methods need to be designed to be permanent and vandal proof. According to Bat Conservation International, Inc., by September 2000, 198 bat-friendly closures had been installed in underground abandoned mines in California.

Bat-friendly closures are generally grouped into four categories:

- **Bat grates** made with welded steel bars, plates or angle iron, are placed horizontally across a mine entrance at pre-determined spacings. These are most commonly installed at the mouth of horizontal or sloping mine adits and are anchored into solid rock or into poured concrete.
- **Bat cages or cupolas** are installed over vertical mine shaft openings and are also constructed with steel tubing, angle iron, or other bar stock.
- **Grated culvert pipes** are sometimes used in openings where the near-surface materials are too unstable to construct traditional bat grates and cages.
- **Cable nets and fences** are sometimes used to exclude humans from entering abandoned mines. These methods are not as secure and vandal proof as welded grates or cages, and they often do not provide the same level of bat access. These have been used where access is extremely difficult and where funding is inadequate for other closure methods. Fences were commonly used in years past when other bat-friendly closure designs were not well known.

Conclusion

Roosting bats have few defenses against predation and other threats. For example, if bats are disturbed during their hibernation, their energy expenditure may cause a critical loss of their fat reserves which can be fatal.

Bats are very sensitive to disturbances from humans. While abandoned underground mines can provide safe roosting habitats for bats, when old mines are too frequently encroached on by humans, the bats may leave.

The physiological and morphological adaptations that make bats proficient fliers also leave them vulnerable to small environmental disturbances as when humans invade their roosts. Closing-off abandoned mines without first checking for bats may needlessly endanger them, and in some instances, many thousands of bats have starved to death when abandoned mines were suddenly plugged. Hopefully, with the concerted efforts of state and federal agencies in California, as well as Bat Conservation International, such thoughtless acts will not occur in the future.

Bats play a unique and valuable role in California's ecosystems. These fascinating and vulnerable mammals have inhabited North America for the past 55 million years and have evolved strategies for making a living that are truly remarkable. Sharing our world with these little 'goblins-of-the-night' enriches both humans and bats. Bat conservation measures in combination with bat-friendly mine-related habitats can do much to ensure their long-term survival.

Don Dupras
Geologist

Above photo. Bat-friendly angle-iron grate placed on the Zaca Mine adit, Alpine County. The Department of Conservation's Abandoned Mine Land Unit (AMLU) funded this project. It protects bats while ensuring public safety: a win-win for both groups. *Courtesy of Frontier Environmental Solutions. Photo by Ed Winchester.*

Above photo: Another view of a Townsend's Big-Eared Bat. Although this little rascal doesn't look too happy, when placed in a more conducive environment, it can purr much like a house cat. When fully grown, these medium-sized bats average about four inches in length and weigh between 0.25 ounces and 0.45 ounces. A single pup is born in late May or early June. Pups at birth are quite large and weigh nearly 25% as much as their mother. They can fly in 2.5-3 weeks and are weaned by 6 weeks. The Townsend's Big-Eared Bat lifespan may be 16 or more years. *Courtesy of Bat Conservation, photo by Kevin and Betty Collins*.

Above photo: A Big Brown Bat (*Eptescicus fuscus*). This California species often lives year round in tree hollows or in underground abandoned mines and caves for shelter, maternity colonies and hibernation. Big Brown Bats do not appear to be very social as they are often found alone or in small groups. They also tend to hibernate alone until low temperatures force them to congregate for warmth. *Photo courtesy of Bat Conservation International, Inc., photo by Merlin D. Tuttle.*

Bat Trivia:

California's Little Brown Bat is the world's longest-lived mammal for its size, with life-spans sometimes exceeding 32 years.

California's Mexican Free-Tailed Bats sometimes fly up to two miles high to feed or to catch tail-winds that carry them over long distances at speeds of more than 60 miles per hour.

California's Pallid Bat is immune to the stings of scorpions and the seven-inch centipedes upon which it feeds.

The Bumblebee Bat of Thailand, the world's smallest mammal, weighs 1/3 that of a penny and is 1.2 inches long. It primarily preys on spiders.

The largest bats are the giant "flying foxes" or Fox Bats of Indonesia. They eat fruit, weigh about 2.4 pounds when mature, and have six-foot wingspans.

This abridged article is adapted from The Organization for Bat Conservation.

Bat Facts

Bats are Beneficial
There are nearly 1,000 species of bats on Earth and are found on every continent except Antarctica. Seventy percent of all bats feed on insects; bats are the most important controllers of night flying insects, including mosquitoes and many agricultural pests.

A single bat can eat up to 600 mosquitoes in one hour, that's 3,000 in one night.

A colony of 150 Big Brown Bats can protect local farmers from up to 18 million or more rootworms each summer. The 20 million Mexican Free-Tail Bats from Bracken Cave, Texas, eat nearly 250 tons of insects nightly.

In the tropics, fruit and nectar feeding bats play a vital role in the survival and re-growth of rain forests. Fruit-eating bats spread seeds as they fly and digest their food. Nectar-feeding bats pollinate many valuable plants such as bananas, balsa wood, agave and cacti.

In the wild, important agricultural plants, from bananas, breadfruit and mangoes to cashews, dates and figs, rely on bats for pollination and seed dispersal.

Bats are Unique
Bats are the only flying mammals. Scientists have classified them into a unique order called "Chiroptera," which means "hand wing." Bats literally fly with their hands.

Bats have lived on Earth for over 55 million years, and the earliest complete bat fossils are from Wyoming.

In addition to sight, many species of bats have highly developed ultrasonic sonar capabilities — commonly called “echolocation” — which they use to navigate and catch insects in total darkness.

Threats to Survival
North American bats are disappearing at alarming rates. Disturbance of roost sites due to urban development and vandalism are the greatest threats to bats. Much of this is due to ignorance and misunderstanding.

Recognizing their steady decline, in the early 1990s Bat Conservation International, Inc. together with the federal Bureau of Land Management created the “Bats and Mines Project” to create some abandoned mines safe bat habitats, and to keep people out. To date more than 1,000 former U.S. mines have been converted to safe bat sanctuaries.

Most bats prefer to roost in mature and dead trees. However, bats may be forced to take up residence in human dwelling when trees are cut down due to development. Many people evict or sometimes eradicate bats found in their house. Often times when a bat is evicted from a roost site by urbanization, it has a poor chance for survival unless a bat house is placed nearby.

The Advantages of Bat Houses
Bat houses offer a way to help local bat populations find suitable roosting sites. Since bats are continuously evicted from trees and human houses, bat houses provide ready-made habitats. By putting up a bat house you will benefit from fewer yard and garden pests.

Not all bat houses are created equal. Old-style bat houses, which are short and stout, often have only a 10% chance of occupancy and provide little temperature variation for bats. Especially on hot days, the temperature in old-style houses is usually far too high for California bats. A bat house based on a new design has up to an 80% occupancy rate in the first season! For information about these newly designed bat houses see the Organization for Bat Conservation at: http://www.batroost.com).

Helping California's Bats
Fear and misunderstanding are the worst enemies of bats. By learning about them and sharing information with

Others, we can help dispel the negative images some people have of these remarkable creatures. Bat houses are a perfect way to get actively involved in conservation. By putting up a bat house you are providing a much needed bat habitat.

Bats of California

Twenty-seven species of bats have been identified in California. These bats inhabit a diversity of roosting sites, including trees, buildings, abandoned mines, rock crevasses, and caves.

ORDER	Family	Common Name (*Species Name*)
CHIROPTERA	Phyllostomidae	
		California Leaf-Nosed Bat (*Macrotus californicus*)
		Hog-Nosed Bat *(Craseonycteris thonglongyai*)
	Vespertilionidae	
		California Bat (*Myotis californicus*)
		Yuma Bat (*Myotis yumanensis*)
		Arizona Bat (*Myotis occultus*)
		Little Brown Bat* (*Myotis lucifugus*)
		Cave Bat* (*Myotis velifer*)
		Least Brown Bat (*Myotis leibii*)
		Long-Legged Bat (*Myotis volans*)
		Fringed Bat (*Myotis thysanodes*)
		Long-Eared Bat (*Myotis evotis*)
		Silver-Haired Bat (*Lasionycteris noctivagans*)
		Western Pipistrelle Bat (*Pipistrellus hesperus*)
		Big Brown Bat* (*Eptesicus fuscus*)
		Southern Yellow Bat (*Lasiurus xanthinus*)
		Western Red Bat (*Lasiurus blossevillii*)
		Hoary Bat (*Lasiurus cinereus*)
		Spotted Bat (*Euderma maculatum*)
		Allen's Long-Eared Bat (*Idionycteris phyllotis*)
		Townsend's Big-Eared Bat (*Corynorhinus townsendii*)
		Pallid Bat* – a.k.a. ‘Desert Pallid Bat’ – (*Antrozous pallidus*)
	Molossidae	
		Pocketed Free-Tailed Bat (*Tadarida brasiliensis*)
		Big Free-Tailed Bat (*Nyctinomops macrotis*)
		Mexican Free-Tailed Bat* (*Tadarida brasilensis*)
		Western Mastiff Bat (*Eumops perotis*)
		Underwood's Mastiff Bat (*Eumops underwoodi*)
		Guano Bat (*Tadarida brasiliensis*)

***** Denotes bats most likely to be found in a backyard bat house.

DEPARTMENT OF CONSERVATION
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Questions or Comments?
Email the Editor at:
SMARAeditor@consrv.ca.gov

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Our web site address is http://www.consrv.ca.gov/omr. The purpose of this publication is to impart the latest reclamation tips, as well as changes in SMARA-related legislation or interpretation of existing statutes by court decisions.

Director: Darryl Young
Deputy Director: Debbie Sareeram
Assistant Director for OMR: William Armstrong
Newsletter Editor: Don Dupras

Below photo: Bat-friendly angle-iron gate at the old Zaca Mine adit, Alpine County. This large, famous and productive underground gold and silver mine was extensively mined from the 1850s into the early 1970s. This gating project was a joint effort of the Department of Conservation's Abandoned Mine Lands Unit (AMLU) and the United States Forestry Service. Operating within a very limited budget, the AMLU often works in cooperation with other agencies — as these photos attest — to close hazardous abandoned mines for public safety and, when feasible, to help out bat colonies. *Courtesy of Frontier Environmental Solutions, photo by Ed Winchester*.

Right photo: The Department of Conservation's Abandoned Mine Lands Unit, in cooperation with the Bureau of Land Management, placed this angle-iron gate across the McCabe Mine adit, Mariposa County. *Courtesy of Frontier Environmental Solutions, photo by Ed Winchester*.

Above photo: A "bat cupola" at the entrance of the Pacific Fluorite Mine, San Bernardino County. The Department of Conservation's Abandoned Mines Land Unit, in cooperation with the State Lands Commission, paid to have an internal bat inspection, then paid to have this bat-friendly cupola constructed. *Photo courtesy of Frontier Environmental Solutions.*